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Attachment Models and Their Relationships With Anxiety, Worry, and Depression

Laura E. Simonelli ¹, William J. Ray ¹, Aaron L. Pincus ¹

¹Department of Psychology, Pennsylvania State University, University Park, Pennsylvania, United States

Correspondence: Laura E. Simonelli

ABSTRACT - The current study examines the manner in which adult attachment styles are related to anxiety, worry, and depression levels. Participants included 1040 individuals who completed the Adult Attachment Scale (AAS), The State Trait Anxiety Inventory, The Penn State Worry Questionnaire, and The Beck Depression Inventory. The AAS measures were also mapped onto the Multi-Item Measure of Adult Romantic Attachment. The results support the hypotheses that attachment models are related to self-reported levels of anxiety, worry, and depression with some exceptions. All of the AAS measures of attachment were indicative of anxiety and worry, but comfort with closeness was not a predictor of depression levels. The four attachment styles-secure, dismissing, preoccupied, and fearful-were related to anxiety, worry and depression levels. However, preoccupied and fearfully attached participants did not differ from each other for any measure, and secure and dismissing types did not differ in experiences of worry or depression. Overall, our results give further support to the idea that the negative affect, such as anxiety, reflected in attachment models shares a common nexus with that experienced in psychopathology especially in terms of anxiety, worry and depression.

Keywords:

Attachment, Anxiety, Worry, Depression

Introduction

Attachment theory has become a dominant approach in understanding interpersonal relationships (cf., Cassidy & Shaver, 1999). Current theory is based on the work of Bowlby who suggested that attachment

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was an "action pattern" like mechanism in which a caregiver, usually the mother, elicits attachment behaviors from an infant (Bowlby, 1969). In this manner, attachment can be viewed as a homeostatic process used for maintaining contact with those who give one a feeling of safety and security (Berman & Sperling, 1994). In order for individuals to develop secure adult relationships, Bowlby noted quality in the parent-child bond is necessary. Although much of the current research has addressed the relationship aspects of attachment (e.g., Fraley & Shaver, 2000), fewer efforts have been directed at understanding the etiological aspects of psychopathology, especially depression and anxiety from an attachment perspective (see Cassidy, 1995 for an overview).

Attachment and the Development of Anxiety

In terms of psychopathology, Bowlby suggested that many anxiety disorders can be explained by anxiety regarding the availability of the attachment figure given that the caregiver must bond with infants and be able to provide for their physical and emotional security needs. When this does not occur, infants may develop anxiety regarding expectations for future human contact (Ainsworth et al., 1978; Collins & Read, 1990; Dozier, Stovall, & Albus, 1999). Inadequate care, parental separation or loss early in life may lead to later emotional disturbances. Thus, early attachment relationships appear not only to be the foundation of future relationship behaviors, but they also may act as a basis for modulating cognitive, emotional, and arousal processes which underlie anxiety and depression.

Attachment Patterns and Their Measurement

Based on Ainsworth et al.'s (1978) three types of attachment styles with infants: secure, insecure avoidant, and insecure ambivalent, a variety of researchers have extended this work to adults. Hazan and Shaver (1987) focused on the nature of the romantic relationship in which individuals become attached to and care for their partner. In this and later work (Shaver and Brennan, 1992) three adult patterns of attachment were described: secure, in which individuals feel comfortable depending upon a partner; avoidant, in which individuals feel uncomfortable with closeness; and anxious-ambivalent, in which individuals may vary from being clingy to insecure. For use in experimental and survey situations, Collins and Read (1990) created the Adult Attachment Scale (AAS) to measure adult attachment based on the Hazan and Shaver (1987) self-report categorical measure. They use the degree to which individuals experience comfort with closeness, feel able to depend on others, and experience anxiety about being abandoned or unloved to represent the forms adult attachment can assume. There is evidence that the AAS possesses scale and subscale reliability, and its categories of attachment are consistent with other self-report attachment instruments (Brennan, et al., 1998; Sperling, Foelsch, & Grace, 1996). The validity of the AAS is indicated by expected correlations of self-esteem, trust, social behavior, instrumentality, expressiveness, and satisfaction in romantic relationship measures (Garbarino, 1998). Further, Shaver, Belsky, and Brennan (2000) reported an extensive network of moderate sized associations between the AAS and the Adult Attachment Interview, which is an hour long individually administered interview related to memories of relationships with childhood attachment figures. For the present study, we chose to use the AAS based on these properties.

In categorizing attachment, Bartholomew (1990) suggested a four-category model of attachment based on internal working models of self and other with the addition of a dismissing category. The four types are as follows: (1) preoccupied individuals have a negative self-model, high dependence on others, a low avoidance of others and are anxious and overly dependent; (2) fearful/avoidant types have high dependence on others, but frequently experience rejection from others; (3) dismissing types have a positive self-model, but a negative model of others resulting in low dependence and high avoidance of others; and (4) the secure types have positive models of both self and others. In reviewing the interrelationship of adult attachment measures, Brennan, Clark, and Shaver (1998) concluded that all scales appear to measure the same

dimensions identified by Ainsworth and her colleagues in 1978, those of avoidance and anxiety which can be translated into the four categories described above. Thus, in this system a secure individual would score low on the anxiety dimension and low on the avoidance dimension. Since our study was begun before the Brennan et al. (1998) review was available, we remapped the AAS onto the Multi-Item Measure of Adult Romantic Attachment created by Brennan, et al. (1998), which uses the anxiety and avoidance dimensions to distinguish four clusters of attachment types as previously proposed (e.g., Bartholomew, 1990).

Attachment and Psychopathology

Although the relationship of attachment dimensions to romantic relationships has been extensively studied, less research has been directed at its relationship to psychopathology. Some initial speculation suggests that insecure attachments early in life may also be a key contributor for psychopathologies including anxiety disorders in adulthood (Rutter, 1997). Bowlby originated the idea that individuals become susceptible to psychopathology by acquiring negative representations of self and others (Dozier, et al., 1999). Bowlby (1973) also proposed individuals become increasingly susceptible to psychopathology due to tactics for handling judgments and emotions linked to attachment which compromise realistic assessments. For example, Dozier, et al. (1999) explained how the experience of rejection and undependability from caregivers may lead some infants to model themselves as rejected and model others as rejecting, which in turn leads to insecure methods for coping with troubles. Role reversals of the attachment figure and child have also been identified as predictors for later anxiety disorders, as some children may worry about their parents' survival in the latter's absence and thus feel the need to not be separated (Cassidy, 1995).

Borkovec, Ray, and Stober (1998) observed that worry is linked to early relationships with caregivers and interpersonal difficulties later in life. Frequent rejection, threats of abandonment, unreliability or lengthy separations from the attachment figure can increase worry in a child (Dozier, et al., 1999). Fear and worry are the prevalent features in Generalized Anxiety Disorder (GAD), which is "the experience of chronic, intense, diffuse anxiety" (Cassidy, 1995, p.343). Anxiety disorders are typified by fear and avoidance (Dozier, et al., 1999). The worry component of GAD is frequently related to interpersonal relationships and the diffuse nature of worry is very similar to Bowlby's idea of insecure attachment (Cassidy, 1995). Insecure attachment is theorized to intensify children's susceptibility to psychopathology by giving them insufficient coping skills for dealing with stress, along with a reduced capacity to develop protective and supportive relationships (Cassidy, 1995). These are indicators that there is a relationship between early attachment relationships and the development of anxiety in adult life and relationships.

The current study examines the manner in which adult attachment styles are related to anxiety, worry, and depression levels. Research supports a link between anxious/ambivalently attached types and anxiety in adulthood and adult relationships (Cassidy, 1995; Collins & Read, 1990; Dozier, et al., 1999; Morrison, et al., 1997; Shaver and Brennan, 1992). Bartholomew (1990) identified secure, preoccupied, fearful and dismissing types of attachment and Brennan et al. (1998) recognized similar types for adult attachment based on combinations of anxiety and avoidance measurements.

Overall, it was hypothesized that different adult attachment styles would be related to self-reported levels of anxiety, and worry. Since Borkovec, et al. (1998) noted worry is also related to depression as well as anxiety it was further predicted that level of depressive affect would vary among different types of attachment relations.

Method

Participants

Undergraduate students ($N = 1040$) from the Pennsylvania State University participated in this study. Participants completed the self-report measures described below in a group setting.

Materials

The Adult Attachment Scale (AAS; Collins & Read, 1990), State-Trait Anxiety Inventory (STAI; Spielberger, 1977), Penn State Worry Questionnaire (PSWQ; Molina & Borkovec, 1994), and Beck Depression Inventory (BDI; Beck et al., 1961) were used to assess adult attachment types, anxiety levels, worry levels, and depression levels, respectively.

Adult Attachment Scale (AAS; Collins & Read, 1990). The AAS includes continuous dimensions of adult attachment, such as feeling able to depend on others, having anxiety about being abandoned or unloved, and having comfort with closeness to another. As previously mentioned, the AAS possesses scale and subscale reliability, and its categories of attachment are consistent with other self-report attachment instruments (Brennan, et al., 1998; Sperling, Foelsch, & Grace, 1996). The AAS measures were also mapped onto the Multi-Item Measure of Adult Romantic Attachment created by Brennan, et al. (1998) in order to obtain categorical attachment styles.

State-Trait Anxiety Inventory (STAI; Spielberger, 1977). The STAI was used to measure how a participant generally feels (trait) and his or her experience of anxiety at a particular moment (state). Test-retest reliability for the trait measure ranges from .73 to .86 for periods from one hour to 104 days in a group of college undergraduates. Not surprisingly, test-retest reliability for the state measure is much lower, ranging from .16 to .54. Internal consistency for both the trait and state measures is good, ranging from .83 to .92. The STAI also has good concurrent and construct validity (Spielberger, Gorsuch, & Lushene, 1970).

Penn State Worry Questionnaire (PSWQ; Molina & Borkovec, 1994). The PSWQ is a 16-item self-report questionnaire for trait assessment of pathological worry. The PSWQ has high internal consistency in college samples, ranging from .88 to .94. Test-retest reveals temporal stability of the measure with $r=.86$ over a four-week period to $r=.92$ over a 10-week period.

Beck Depression Inventory (BDI; Beck et al., 1961). The BDI is a 21-item self-report scale, which comprehensively assesses dysphoric symptoms, including affective, cognitive, somatic, overt behavioral, and interpersonal symptoms of depression.

Data Quantification

The AAS was scored for the three Collins and Reed (1990) dimensions. For additional analyses, questions from the AAS were mapped onto the Multi-Item Measure of Adult Romantic Attachment created by Brennan, et al. (1998) (see Appendix). This was done to establish anxiety and avoidance measures, which could be used to distinguish four adult attachment types as identified by Bartholomew (1990) by following the method used by Brennan, et al. (1998). Assessment of attachment styles was useful for creating clusters for which we conducted a hierarchical analysis using the Ward Method, as well as a non-hierarchical k-technique analysis, to see if the clusters were consistent. After categories were assigned to each cluster based on levels of avoidance and anxiety, analyses of variance (ANOVAs) for the STAI, PSWQ, and BDI mean scores were conducted with Tukey comparisons between each of the attachment types - dismissing, preoccupied, fearful, and secure. Using scores on the STAI, PSWQ, BDI, and the anxiety and avoidance measures established through the Brennan, et al. (1998) method, correlations were conducted. A regression analysis was conducted between the STAI scores and the BDI scores to see if having anxiety is a predictor of depression with STAI scores as the independent variable and BDI scores as the dependent variable. Regression analyses of the Collins and Read (1990) original measures and the STAI, PSWQ, and BDI scores were conducted to see which attachment measures are predictors of anxiety, worry, and depression. Scores from the Collins and Read (1990) original measures Close, Depend, and Anxiety were the independent variables, while scores on the STAI, PSWQ, and BDI were the dependent variables.

Results

Associations Between Adult Attachment Styles and Anxiety, Worry, and Depression

Correlations between the STAI, PSWQ, BDI, and adult attachment measures are presented in Table 1.

Table 1: Intercorrelations between scores on the AAS, BDI, STAI, and PSWO, and remapped AAS

Measure	Anxiety	Worry	Depression
CR Dep	-.391	-.224	-.366
CRANX	.415	.274	.354
CR Close	-.291	-.171	-.155
Avoid	.348	.220	.244
Anxiety	.404	.236	.348

Note: CR Dep = Collins & Read ability to depend on others; CR ANX = Collins & Read Anxious over closeness; CR Close = Collins and Read Able to be close to others; Avoid = Avoidance (Adult Attachment); Anxiety = Anxiety (Adult Attachment).

Table 2: Regression analysis for Collins and Read (1990) measures predicting scores on anxiety, worry, and depression

Measure	<i>B</i>	<i>SE B</i>	β
Anxiety			
CR Depend	-.697	.080	-.250*
CR Anxiety	1.000	.082	.338*
CR Close	-.738	.107	-.193*
$R^2 = .294$			
Worry			
CR Depend	-.365	.089	-.133*
CR Anxiety	.691	.091	.236*
CR Close	-.439	.119	-.117*
$R^2 = .115$			
Depression			
CR Depend	-.420	.045	-.280*
CR Anxiety	.463	.045	.291*
CR Close	-.108	.059	-.052
$R^2 = .217$			

Note: CR = Collins and Reed

Prediction of Anxiety, Worry, and Depression from Adult Attachment

At an alpha level of .001, a regression analysis indicates the Collins and Read (1990) measures – comfort with closeness (Close), feeling able to depend on others (Depend), and fear of being abandoned or unloved (Anxiety) – were significant predictors for the STAI [$F(3, 982) = 136.46, p < .001$], the PSWQ [$F(3, 962) = 41.87, p < .001$], and the BDI [$F(3, 1034) = 95.25, p < .001$] (see Table 2). Specifically, Close ($t = -6.89, p < .001$), Depend ($t = -8.67, p < .001$), and Anxiety ($t = 12.18, p < .001$) were all significant predictors for the STAI. Close ($t = -3.69, p < .001$), Depend ($t = -4.08, p < .001$), and Anxiety ($t = 7.55, p < .001$) were significant predictors for the PSWQ. Depend ($t = -9.43, p < .001$) and Anxiety ($t = 10.24, p < .001$) were significant predictors for the BDI.

.001) were significant predictors for the BDI. Close ($t = -1.81, p = .07$) was not a significant predictor for the BDI. Thus, low comfort with closeness, feeling little ability to depend on others, and having anxiety about being abandoned or unloved were predictors of high levels of anxiety and worry. The former two predicted depression level but comfort with closeness did not.

Discriminating Adult Attachment Types with Anxiety, Worry, and Depression

The mean scores on the STAI, PSWQ, and BDI for each of the four attachment types (remapped AAS) are presented in Table 3. Each of these scores were used to perform separate ANOVA's which indicated that attachment style was significantly related to scores in terms of anxiety, [$F(3, 983) = 69.85, p < .001$], worry [$F(3, 1035) = 45.706, p < .001$], and depression [$F(3, 963) = 21.459, p < .001$]. Follow-up Tukey comparisons reveal secure ($M = 40.67$) types had lower anxiety score than the dismissing ($M = 45.89$), ($p < .005$), preoccupied ($M = 54.55$), ($p < .001$), and fearful ($M = 55.84$), ($p < .001$) types. Dismissing types displayed significantly ($p < .001$) less anxiety than the preoccupied and fearful types. Secure ($M = 36.59$) and dismissing ($M = 39.06$) types showed significantly ($p < .001$) less worry than the preoccupied ($M = 44.38$), and fearful ($M = 45.16$), ($p < .001$) types. Secure ($M = 5.39$) and dismissing ($M = 5.61$) types showed significantly less depression than the preoccupied ($M = 10.07$), ($p < .001$) and fearful ($M = 10.53$), ($p < .001$) types.

Table 3: Mean scores on anxiety, worry, and depression for attachment types

Measure	Secure	Dismissing	Preoccupied	Fearful
Anxiety	40.67 ^{dpf}	45.89 ^{pf}	54.55 ^{sd}	55.84 ^{sd}
Worry	36.58 ^{pf}	39.06 ^{pf}	44.38 ^{sd}	45.16 ^{sd}
Depression	5.39 ^{pf}	5.61 ^{pf}	10.07 ^{sd}	10.53 ^{sd}

Note: Subscripts indicate significantly different means ($p < .05$) for each measure between attachment types (s = secure, d = dismissing, p = preoccupied, f = fearful).

Discussion

The results supported our major hypothesis that attachment models are related to individuals' experiences of anxiety, worry and depression. We first examined this relationship with the Collins and Read (1990) measure of attachment. The three scales of the AAS, comfort with closeness, feeling able to depend on others, and anxiety about being abandoned or unloved were all significantly predictive of anxiety and worry experiences among the participants. In particular, high comfort with closeness, strong feelings of being able to depend on others, and low anxiety about being abandoned or unloved were predictors of lower anxiety and worry. This supports the notion that original attachment relationships play a role not only in interpersonal relationships but are associated with the anxiety experienced in GAD. For example, Cassidy (1995) noted that the anxiety Bowlby observed to be present in insecure attachment parallels the diffuse anxiety characteristic of GAD as described by Barlow (1988). Further, there was a significant positive correlation between AAS anxiety scores and those on the STAI irrespective of attachment model. This also supports the original hypothesis in that those who feel comfortable about being close to others and able to depend on others, along with feeling little anxiety about being abandoned or unloved display lower anxiety levels not only in romantic relationships but also throughout their life experiences. Viewing anxiety as a cognitive-emotional phenomenon which extends into many facets of one's life, these results suggest that these early attachment representations broadly generalize beyond caregiver situations (Berman & Sperling, 1994; Garbarino, 1998; Morrison, et al., 1997).

Since our study was begun before the Brennan et al. (1998) review was available, we remapped the AAS onto the Multi-Item Measure of Adult Romantic Attachment created by Brennan, et al. (1998), which

uses the anxiety and avoidance dimensions to distinguish four clusters of attachment models. As hypothesized, attachment style (secure, dismissing, preoccupied, and fearful attachment) predicted anxiety, worry and depression levels. Compared with securely attached participants, dismissing, preoccupied and fearfully attached participants were more likely to report negative affect in the form of anxiety. This finding is consistent with current theoretical suggestions that secure participants most likely received consistent caregiving, which provided for their security needs in their early lives, rather than the inconsistent, inadequate care, which has been theorized to be connected to anxiety (Ainsworth, et al., 1978; Berman & Sperling, 1994; Birtchnell, 1997; Bowlby, 1969; Bowlby, 1973; Collins & Read, 1990). On the other hand, preoccupied and fearfully attached participants reported more worry and depression than securely attached participants. This is consistent with the previously reported link between worry and anxiety, and depression and anxiety (Borkovec et al, 1998; Cassidy, 1995).

One intriguing finding was that the dismissing type of attached participants did not differ from the securely attached participants in terms of reported worry and depression. When compared to preoccupied and fearful attachment styles, dismissing individuals had a higher avoidance level and only a moderate anxiety level. The dismissing type of attached participants differed from the preoccupied and fearfully attached participants who experience greater levels of worry and depression. One implication of these findings is that negative affect in the form of anxiety, worry and depression is related to problems in early interpersonal relationships. If individuals experience positive relationships (e.g., secure attachment) or avoid relationships (e.g., avoidant attachment style), then any future psychopathology will not involve problems of anxiety, worry, or depression. The type of psychopathology (e.g., dissociation or personality disorder) related to an avoidant attachment style would be an important question for future research (e.g., Brennan & Shaver, 1998).

Another interesting finding in the present study was the lack of differences in levels of anxiety, worry, and depression between preoccupied and fearfully attached participants. This finding offers support for the Collins and Read (1990) measurement, as well as for the original secure, insecure avoidant, insecure anxious/ambivalent styles of attachment proposed by Ainsworth, et al. (1978) and Shaver and Brennan (1992). Dismissing types could be classified as avoidant, while preoccupied and fearful could be classified as anxious/ambivalent. These findings also gives further support to the idea that there are two distinct primary forms of attachment, secure versus insecure, with less distinct secondary forms of insecure types: anxious/ambivalent and avoidant (Pincus, Dickonson, Schut, Castonguay, & Bedics, 1999).

As in previous studies participants who experienced high levels of anxiety also experienced high levels of depression (cf., Borkovec, et al., 1990). In terms of attachment, comfort with closeness was not a predictor for depression levels, whereas feeling able to depend on others and anxiety about being abandoned or unloved were predictors. This contradicts part of the original corresponding hypothesis and is a surprising finding because comfort with closeness is a predictor for both worry and anxiety, which is a predictor of depression. It may indicate comfort with closeness is not as much a predictor of the experiences of anxiety and worry that do lead to depression, while not feeling that one can depend on others and anxiety about separation or rejection might be more indicative of such experiences. This is an area in need of future investigation.

In conclusion, the data supported the hypotheses that attachment models are related to self-reported levels anxiety, worry, and depression with some exceptions. For example, all of the Collins and Read (1990) measures of attachment were indicative of anxiety and worry, but comfort with closeness was not a predictor of depression levels, which is an area in need of further investigation. The four attachment styles (cf., Bartholomew 1990)-secure, dismissing, preoccupied, and fearful-do make a difference in anxiety, worry and depression levels; however, preoccupied and fearfully attached participants did not differ from each other for any measure, and secure and dismissing types did not differ in experiences of worry or depression. Overall, our results give further support to the idea that the negative affect such as anxiety

reflected in attachment models shares a common nexus with that experienced in psychopathology especially in terms of anxiety, worry and depression. Given that considerable research effort has been directed at the sensitivity of individuals with GAD to attend to and interpret threat stimuli (e.g., Mathews, & MacLeod, 1994), a productive area of future research would be the manner in which this research can be extended to attachment models. Using a developmental psychopathological perspective (e.g., Cicchetti, 1984) one could also examine the manner in which attachment models lead to the development of psychopathological disorders such as GAD and depression. In such a study one could also examine the manner in which other modulating variable (e.g., personality) influence this trajectory.

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Appendix A

Basic item content of Collins and Read (1990) Adult Attachment Scale Items Scaled According to Brennan et al.'s (1998) Multi-Item Measure of Adult Attachment. For exact item wording see Brennan et al. (1998).

Anxiety Scale

7. Rarely worry about being abandoned
8. Concerned partner may not truly love me
9. Others hesitate to be as close as I would prefer
10. Fear partner may not want to remain with me
11. Strong wish to fully merge with another person
12. Desire for closeness sometimes overwhelms others

Avoidance Scale

1. Difficulty relying on others
3. Comfortable with depending on others
11. Easy to feel close to others
12. Rarely worry about others becoming too close
13. Some discomfort with closeness
14. Uneasy when others get very close
15. Comfortable with others depending on me
16. Partners sometimes want more intimacy than I do